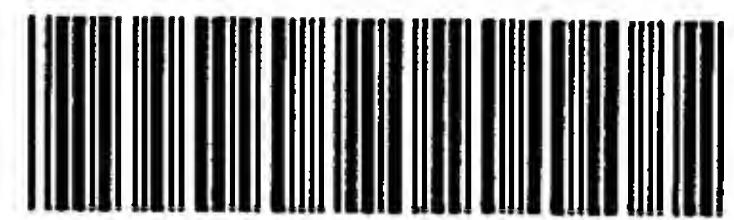


RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/572,563
Source: IFwp
Date Processed by STIC: 3/19/07

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RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/572,563

DATE: 03/19/2007
TIME: 11:22:10

Input Set : E:\2007-03-13_0269_seq_list_20070308.txt
Output Set: N:\CRF4\03192007\J572563.raw

3 <110> APPLICANT: YEASTERN BIOTECH CO., LTD
5 <120> TITLE OF INVENTION: A FUNGAL IMMUNOMODULATORY PROTEIN (FIP) PREPARED BY
MICROORGANISMS
6 AND USES THEREOF
8 <130> FILE REFERENCE: PCT/CN2004/001044
10 <140> CURRENT APPLICATION NUMBER: US 10/572,563
11 <141> CURRENT FILING DATE: 2006-03-17
13 <150> PRIOR APPLICATION NUMBER: PCT/CN2004/001044
14 <151> PRIOR FILING DATE: 2004-09-14
16 <150> PRIOR APPLICATION NUMBER: US 60/503,547
17 <151> PRIOR FILING DATE: 2003-09-17
19 <160> NUMBER OF SEQ ID NOS: 15
21 <170> SOFTWARE: PatentIn version 3.3
23 <210> SEQ ID NO: 1
24 <211> LENGTH: 336
25 <212> TYPE: DNA
26 <213> ORGANISM: Ganoderma lucidium
29 <220> FEATURE:
30 <221> NAME/KEY: variation
31 <222> LOCATION: (1)..(336)
32 <223> OTHER INFORMATION: improved DNA sequence of G. lucidium FIP for expressing in
yeast,
33 FIP-yeast
35 <400> SEQUENCE: 1
36 atgtctgata ctgcatttgcat tttcagattt gcttggatg ttaagaagtt gtctttcgat 60
38 tacactccaa actggggtag aggttaccca aacaacttca ttgataactgt tactttccca 120
40 aagggtttga ctgataaggc ttacacttac agagttgctg tttctggtag aaacttgggt 180
42 gttaagccat cttacgctgt tgaatctgat ggttctcaaa aggttaactt cttggaaatac 240
44 aactctggtt acggatttgc tgataactaac actattcaag ttttcgttgt tgatccagat 300
46 actaacaacg atttcattat tgctcaatgg aactga 336
49 <210> SEQ ID NO: 2
50 <211> LENGTH: 336
51 <212> TYPE: DNA
52 <213> ORGANISM: Ganoderma lucidium
55 <220> FEATURE:
56 <221> NAME/KEY: gene
57 <222> LOCATION: (1)..(336)
58 <223> OTHER INFORMATION: original FIP codon, FIP-1z
60 <400> SEQUENCE: 2
61 atgtccgaca ctgcatttgcat cttcaggctc gcctggacg tgaagaagct ctcgttcgac 60
63 tacaccccgaa actggggccg cggcaacccc aacaacttca tcgacactgt caccttcccg 120
65 aaagtcttga ccgacaaggc gtacacgtac cgcgtcgccg tctccggacg gaacctcgcc 180
67 gtgaaaccct cgtacgcccgt cgagagcgcac ggctcgcaga aggtcaactt cctcgagttac 240
69 aactccgggt atggcatagc ggacacgaac acgatccagg tggatcgatgt cgaccccgac 300

71 accaacaacg acttcatcat cgcccagtgg aacttag

336

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/572,563

DATE: 03/19/2007

TIME: 11:22:10

Input Set : E:\2007-03-13 0269_seq list_20070308.txt
 Output Set: N:\CRF4\03192007\J572563.raw

74 <210> SEQ ID NO: 3
 75 <211> LENGTH: 40
 76 <212> TYPE: DNA
 77 <213> ORGANISM: Artificial
 79 <220> FEATURE:
 80 <223> OTHER INFORMATION: primer
 83 <220> FEATURE:
 W--> 84 <221> NAME/KEY: primer
 85 <222> LOCATION: (1)..(40)
 86 <223> OTHER INFORMATION: forward primer of FIP-yeast
 88 <400> SEQUENCE: 3
 89 aaaaaaaaaaa ggatcccgca atgtctgata ctgctttgat 40
 92 <210> SEQ ID NO: 4
 93 <211> LENGTH: 41
 94 <212> TYPE: DNA
 95 <213> ORGANISM: Artificial
 97 <220> FEATURE:
 98 <223> OTHER INFORMATION: primer
 101 <220> FEATURE:
 W--> 102 <221> NAME/KEY: primer
 103 <222> LOCATION: (1)..(41)
 104 <223> OTHER INFORMATION: reverse primer of FIP-yeast
 106 <400> SEQUENCE: 4
 107 aaaaaaaaaaa acacgtgtca actagttgt tccattgagc a 41
 110 <210> SEQ ID NO: 5
 111 <211> LENGTH: 41
 112 <212> TYPE: DNA
 113 <213> ORGANISM: Artificial
 115 <220> FEATURE:
 116 <223> OTHER INFORMATION: primer
 119 <220> FEATURE:
 W--> 120 <221> NAME/KEY: primer
 121 <222> LOCATION: (1)..(41)
 122 <223> OTHER INFORMATION: forward primer of FIP-lz
 124 <400> SEQUENCE: 5
 125 aaaaaaaaaaa ggatcccgca atgtccgaca ctgccttgat c 41
 128 <210> SEQ ID NO: 6
 129 <211> LENGTH: 42
 130 <212> TYPE: DNA
 131 <213> ORGANISM: Artificial
 133 <220> FEATURE:
 134 <223> OTHER INFORMATION: primer
 137 <220> FEATURE:
 W--> 138 <221> NAME/KEY: primer
 139 <222> LOCATION: (1)..(42)
 140 <223> OTHER INFORMATION: reverse primer of FIP-lz
 142 <400> SEQUENCE: 6
 143 aaaaaaaaaaa acacgtgtca actagttgt tccctagttc ca 42
 146 <210> SEQ ID NO: 7

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/572,563

DATE: 03/19/2007

TIME: 11:22:10

Input Set : E:\2007-03-13_0269_seq_list_20070308.txt
 Output Set: N:\CRF4\03192007\J572563.raw

147 <211> LENGTH: 111
 148 <212> TYPE: PRT
 149 <213> ORGANISM: Ganoderma lucidium
 152 <220> FEATURE:
 153 <221> NAME/KEY: PEPTIDE
 154 <222> LOCATION: (1)..(111)
 155 <223> OTHER INFORMATION: FIP amino acid sequence
 157 <400> SEQUENCE: 7
 159 Met Ser Asp Thr Ala Leu Ile Phe Arg Leu Ala Trp Asp Val Lys Lys
 160 1 5 10 15
 163 Leu Ser Phe Asp Tyr Thr Pro Asn Trp Gly Arg Gly Asn Pro Asn Asn
 164 20 25 30
 167 Phe Ile Asp Thr Val Thr Phe Pro Lys Val Leu Thr Asp Lys Ala Tyr
 168 35 40 45
 171 Thr Tyr Arg Val Ala Val Ser Gly Arg Asn Leu Gly Val Lys Pro Ser
 172 50 55 60
 175 Tyr Ala Val Glu Ser Asp Gly Ser Gln Lys Val Asn Phe Leu Glu Tyr
 176 65 70 75 80
 179 Asn Ser Gly Tyr Gly Ile Ala Asp Thr Asn Thr Ile Gln Val Phe Val
 180 85 90 95
 183 Val Asp Pro Asp Thr Asn Asn Asp Phe Ile Ile Ala Gln Trp Asn
 184 100 105 110
 187 <210> SEQ ID NO: 8
 188 <211> LENGTH: 111
 189 <212> TYPE: PRT
 190 <213> ORGANISM: Ganoderma tsugae
 193 <220> FEATURE:
 194 <221> NAME/KEY: PEPTIDE
 195 <222> LOCATION: (1)..(111)
 196 <223> OTHER INFORMATION: FIP amino acid sequence
 198 <400> SEQUENCE: 8
 200 Met Ser Asp Thr Ala Leu Ile Phe Arg Leu Ala Trp Asp Val Lys Lys
 201 1 5 10 15
 204 Leu Ser Phe Asp Tyr Thr Pro Asn Trp Gly Arg Gly Asn Pro Asn Asn
 205 20 25 30
 208 Phe Ile Asp Thr Val Thr Phe Pro Lys Val Leu Thr Asp Lys Ala Tyr
 209 35 40 45
 212 Thr Tyr Arg Val Ala Val Ser Gly Arg Asn Leu Gly Val Lys Pro Ser
 213 50 55 60
 216 Tyr Ala Val Glu Ser Asp Gly Ser Gln Lys Val Asn Phe Leu Glu Tyr
 217 65 70 75 80
 220 Asn Ser Gly Tyr Gly Ile Ala Asp Thr Asn Thr Ile Gln Val Phe Val
 221 85 90 95
 224 Val Asp Pro Asp Thr Asn Asn Asp Phe Ile Ile Ala Gln Trp Asn
 225 100 105 110
 228 <210> SEQ ID NO: 9
 229 <211> LENGTH: 113
 230 <212> TYPE: PRT
 231 <213> ORGANISM: Flammulina velutipes

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/10/572,563

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 TIME: 11:22:10

Input Set : E:\2007-03-13_0269_seq_list_20070308.txt
 Output Set: N:\CRF4\03192007\J572563.raw

234 <220> FEATURE:
 235 <221> NAME/KEY: PEPTIDE
 236 <222> LOCATION: (1)..(113)
 237 <223> OTHER INFORMATION: FIP amino acid sequence
 239 <400> SEQUENCE: 9
 241 Ser Ala Thr Ser Leu Thr Phe Gln Leu Ala Tyr Leu Val Lys Lys Ile
 242 1 5 10 15
 245 Asp Phe Asp Tyr Thr Pro Asn Trp Gly Arg Gly Thr Pro Ser Ser Tyr
 246 20 25 30
 249 Ile Asp Asn Leu Thr Phe Pro Lys Val Leu Thr Asp Lys Lys Tyr Ser
 250 35 40 45
 253 Tyr Arg Val Val Val Asn Gly Ser Asp Leu Gly Val Glu Ser Asn Phe
 254 50 55 60
 257 Ala Val Thr Pro Ser Gly Gly Gln Thr Ile Asn Phe Leu Gln Tyr Asn
 258 65 70 75 80
 261 Lys Gly Tyr Gly Val Ala Asp Thr Lys Thr Ile Gln Val Phe Val Val
 262 85 90 95
 265 Pro Asp Thr Gly Asn Ser Glu Glu Tyr Ile Ile Ala Glu Trp Lys Lys
 266 100 105 110
 269 Thr
 273 <210> SEQ ID NO: 10
 274 <211> LENGTH: 49
 275 <212> TYPE: DNA
 276 <213> ORGANISM: Artificial
 278 <220> FEATURE:
 279 <223> OTHER INFORMATION: primer
 282 <220> FEATURE:
 W--> 283 <221> NAME/KEY: primer
 284 <222> LOCATION: (1)..(49)
 285 <223> OTHER INFORMATION: forward primer of FIP
 287 <400> SEQUENCE: 10
 288 aaaaactcga gaaaagagag gctgaagcta tgtccgacac tgccttgat 49
 291 <210> SEQ ID NO: 11
 292 <211> LENGTH: 31
 293 <212> TYPE: DNA
 294 <213> ORGANISM: Artificial
 296 <220> FEATURE:
 297 <223> OTHER INFORMATION: primer
 300 <220> FEATURE:
 W--> 301 <221> NAME/KEY: primer
 302 <222> LOCATION: (1)..(31)
 303 <223> OTHER INFORMATION: reverse primer of FIP
 305 <400> SEQUENCE: 11
 306 aaaaacacgt gtcaactagt tagttccatt g 31
 309 <210> SEQ ID NO: 12
 310 <211> LENGTH: 315
 311 <212> TYPE: DNA
 312 <213> ORGANISM: Artificial
 314 <220> FEATURE:

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/572,563

DATE: 03/19/2007
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Input Set : E:\2007-03-13_0269_seq_list_20070308.txt
Output Set: N:\CRF4\03192007\J572563.raw

315 <223> OTHER INFORMATION: recombinant DNA sequence for encoding recombinant protein
 318 <220> FEATURE:
 319 <221> NAME/KEY: CDS
 320 <222> LOCATION: (22)..(315)
 321 <223> OTHER INFORMATION: recombinant protein containing alpha-factor and partial FIP
 323 <400> SEQUENCE: 12

324	cggtaccgg	ggatccaaac	g	atg	aga	ttt	cct	tca	att	ttt	act	gca	gtt	51			
325				Met	Arg	Phe	Pro	Ser	Ile	Phe	Thr	Ala	Val				
326				1			5				10						
328	tta	tcc	gca	gca	tcc	tcc	gca	tta	gct	gct	cca	gtc	aac	act	aca	aca	99
329	Leu	Phe	Ala	Ala	Ser	Ser	Ala	Leu	Ala	Ala	Pro	Val	Asn	Thr	Thr	Thr	
330								15		20			25				
332	gaa	gat	gaa	acg	gca	caa	att	ccg	gct	gaa	gct	gtc	atc	ggt	tac	tca	147
333	Glu	Asp	Glu	Glu	Thr	Ala	Gln	Ile	Pro	Ala	Glu	Ala	Val	Ile	Gly	Tyr	Ser
334							30		35			40					
336	gat	tta	gaa	ggg	gat	ttc	gat	gtt	gct	gtt	ttg	cca	ttt	tcc	aac	agc	195
337	Asp	Leu	Glu	Gly	Asp	Phe	Asp	Val	Ala	Val	Leu	Pro	Phe	Ser	Asn	Ser	
338							45		50			55					
340	aca	aat	aac	ggg	tta	ttg	ttt	ata	aat	act	act	att	gcc	agc	att	gct	243
341	Thr	Asn	Asn	Gly	Leu	Leu	Phe	Ile	Asn	Thr	Thr	Ile	Ala	Ser	Ile	Ala	
342							60		65			70					
344	gct	aaa	gaa	ggg	gta	tct	ctc	gag	aaa	aga	gag	gct	gaa	gct	atg	291	
345	Ala	Lys	Glu	Glu	Gly	Val	Ser	Leu	Glu	Lys	Arg	Glu	Ala	Glu	Ala	Met	
346							75		80			85			90		
348	tcc	gac	act	gcc	ttg	atc	ttc	agg								315	
349	Ser	Asp	Thr	Ala	Leu	Ile	Phe	Arg									
350							95										
353	<210>	SEQ	ID	NO:	13												
354	<211>	LENGTH:	98														
355	<212>	TYPE:	PRT														
356	<213>	ORGANISM:	Artificial														
358	<220>	FEATURE:															
359	<223>	OTHER INFORMATION:	Synthetic Construct														
361	<400>	SEQUENCE:	13														
363	Met	Arg	Phe	Pro	Ser	Ile	Phe	Thr	Ala	Val	Leu	Phe	Ala	Ala	Ser	Ser	
364	1						5			10			15				
367	Ala	Leu	Ala	Ala	Pro	Val	Asn	Thr	Thr	Thr	Glu	Asp	Glu	Thr	Ala	Gln	
368							20			25			30				
371	Ile	Pro	Ala	Glu	Ala	Val	Ile	Gly	Tyr	Ser	Asp	Leu	Glu	Gly	Asp	Phe	
372							35			40			45				
375	Asp	Val	Ala	Val	Leu	Pro	Phe	Ser	Asn	Ser	Thr	Asn	Asn	Gly	Leu	Leu	
376							50			55			60				
379	Phe	Ile	Asn	Thr	Thr	Ile	Ala	Ser	Ile	Ala	Ala	Lys	Glu	Glu	Gly	Val	
380							65			70			75			80	
383	Ser	Leu	Glu	Lys	Arg	Glu	Ala	Glu	Ala	Met	Ser	Asp	Thr	Ala	Leu	Ile	
384							85			90					95		
387	Phe	Arg															
390	<210>	SEQ	ID	NO:	14												
391	<211>	LENGTH:	624														

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 03/19/2007
PATENT APPLICATION: US/10/572,563 TIME: 11:22:11

Input Set : E:\2007-03-13_0269_seq_list_20070308.txt
Output Set: N:\CRF4\03192007\J572563.raw

Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete,
per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:3,4,5,6,10,11,12,13,14,15

VERIFICATION SUMMARY
PATENT APPLICATION: US/10/572,563

DATE: 03/19/2007
TIME: 11:22:11

Input Set : E:\2007-03-13_0269_seq_list_20070308.txt
Output Set: N:\CRF4\03192007\J572563.raw

L:84 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:3
L:102 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:4
L:120 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:5
L:138 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:6
L:283 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:10
L:301 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:11